PENDING CLAIMS AS AMENDED

1. (Original) A method of noise estimation in a communication device comprising:

demodulating a received signal on an empty code channel; and

determining a noise estimate from a resulting demodulated signal.

2. (Original) The method of Claim 1, wherein the empty code channel is an empty Walsh code channel.

3. (Original) The method of Claim 1, wherein the empty code channel is a Pilot Walsh code channel.

4. (Original) The method of Claim 3, wherein demodulating the received signal comprises demodulating quadrature phase symbols of the received Pilot signal.

5. (Original) The method of Claim 1, wherein determining the noise estimate comprises determining a magnitude of the demodulated signal.

6. (Original) The method of Claim 5, wherein determining the noise estimate further comprises accumulating the determined magnitude of the demodulated signal over a frame.

7. (Original) The method of Claim 1, wherein determining the noise estimate comprises determining an energy of the demodulated signal.

8. (Original) The method of Claim 7 wherein determining the noise estimate further comprises accumulating the determined energy of the demodulated signal over a frame.

10. (Original) The method of Claim 1 wherein the communication device is a CDMA base station.

11. (Original) A method of noise estimation in a communication device comprising:

calculating a cross product of a received Pilot signal to generate a demodulated Pilot signal;

determining an energy of the demodulated Pilot signal; and

accumulating the energy over a frame to produce a received noise estimate.

12. (Original) The method of Claim 11, wherein calculating the cross product comprises calculating a cross product of the received Pilot signal with a filtered Pilot signal.

13. (Currently Amended) A method of noise estimation in a communication device comprising:

calculating a cross product of a received Pilot signal in a plurality of fingers of a rake receiver to generate a demodulated Pilot signal in each of the plurality of fingers;

time aligning the demodulated signals from each of the plurality of fingers in a corresponding plurality of deskew buffers; ~~and~~

summing the time aligned demodulated signals from the plurality of deskew buffers to generate a composite demodulated signal;

determining a magnitude of the composite demodulated signal; and

accumulating the magnitude of the composite demodulated signal over a frame.

14. (Cancelled)

15. (Currently Amended) The method of Claim ~~14~~ 13, wherein the communication device is a CDMA mobile station.

16. (Original) The method of Claim 13, further comprising:

determining an energy of the composite demodulated signal; and

accumulating the energy of the composite demodulated signal over a frame.

17. (Original) The method of Claim 16, wherein the communication device is a CDMA mobile station.

18. (Original) A noise estimator in a communication device comprising:

means for demodulating a received signal on an empty code channel to produce a demodulated signal; and

means for determining a noise estimate from the demodulated signal.

19. (Original) The noise estimator of Claim 18, wherein the empty code channel is an empty Walsh code channel.

20. (Original) The noise estimator of Claim 18, wherein the empty code channel is a Pilot Walsh code channel.

21. (Original) The noise estimator of Claim 20, wherein the means for demodulating the received signal comprises means for demodulating quadrature phase symbols of the received Pilot signal.

22. (Original) The noise estimator of Claim 18, wherein the means for determining the noise estimate comprises means for determining a magnitude of the demodulated signal.

23. (Original) The noise estimator of Claim 22, wherein the means for determining the noise estimate further comprises means for accumulating the magnitude of the demodulated signal over a frame.

24. (Original) The noise estimator of Claim 18, wherein the means for determining the noise estimate comprises means for determining an energy of the demodulated signal.

25. (Original) The noise estimator of Claim 24 wherein the means for determining the noise estimate further comprises means for accumulating the energy of the demodulated signal over a frame.

26. (Original) The noise estimator of Claim 18 wherein the communication device is a CDMA mobile station.

27. (Original) The noise estimator of Claim 18 wherein the communication device is a CDMA base station.

28. (Original) A noise estimator in a communication device comprising:
means for calculating a cross product of a received Pilot signal to generate a demodulated Pilot signal;
means for determining an energy of the demodulated Pilot signal; and
means for accumulating the determined energy over a frame to produce a received noise estimate.

29. (Original) The noise estimator of Claim 28, wherein the means for calculating the cross product comprises means for calculating a cross product of the received Pilot signal with a filtered Pilot signal.

30. (Currently Amended) A noise estimator in a communication device comprising:
means for calculating a cross product of a received Pilot signal in a plurality of fingers of a rake receiver to generate a demodulated Pilot signal in each of the plurality of fingers;
means for time aligning the demodulated signals from each of the plurality of fingers in a corresponding plurality of deskew buffers; and

means for summing the time aligned demodulated signals from the plurality of deskew buffers to generate a composite demodulated signal;

means for determining a magnitude of the composite demodulated signal; and

means for accumulating the determined magnitude of the composite demodulated signal over a frame to produce a received noise estimate.

31.   (Cancelled)

32.   (Currently Amended) The noise estimator of Claim 30 31, wherein the communication device is a CDMA mobile station.

33.   (Original) The noise estimator of Claim 30, further comprising:

means for determining an energy of the composite demodulated signal; and

means for accumulating the determined energy of the composite demodulated signal over a frame to produce a received noise estimate.

34.   (Original) The noise estimator of Claim 33, wherein the communication device is a CDMA mobile station

35.   (Original) A device for noise estimation in a communication device comprising:

a receiver adapted to demodulate a received signal using an empty Walsh code;

a noise calculator coupled to the receiver adapted to generate an output comprising a noise estimate that is based in part on the demodulated received signal; and

an accumulator adapted to sum the output of the noise calculator over a predetermined period.

36.   (Original) The device of Claim 35 wherein the receiver comprises:

a plurality of fingers, each finger adapted to demodulate a multipath replica of a desired signal and to provide outputs comprising finger noise components; and

a summer adapted to coherently sum the outputs from each of the plurality of fingers.

37. (Original) The device of Claim 36 wherein each of the plurality of fingers comprises:

a cross product generator adapted to calculate a cross product of signals provided at a first input and a second input of the cross product generator to produce a cross product output; and

a deskew buffer adapted to store time aligned cross product outputs from the cross product generator.